

REMARKS

I. **INTRODUCTION**

Claims 1-15, 39, 75 and 109 are presently under consideration in the present application

II. **REJECTION UNDER 35 U.S.C. § 103 SHOULD BE WITHDRAWN**

Claims 1-15, 39, 75 and 109 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 5,191,879 issued to Krauter (the "Krauter Patent"), in view of U.S. Patent No. 6,552,794 issued to Garini (the "Garini Patent"). Applicants respectfully assert that the Krauter Patent, taken alone or in combination with the Garini Patent fails to teach or suggest the subject matter recited in independent claims 1, 75 and 109 and the claims which depend from independent claim 1 for at least the following reasons.

Under 35 U.S.C. § 103(a), a person is not entitled to a patent even though the invention is not identically disclosed or described as set forth in §102, "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a).

The objective standard for determining obviousness under 35 U.S.C. § 103, as set forth in *Graham v. John Deere, Co.*, 383 U.S. 1 (1966), requires a factual determination to ascertain: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; and (3) the differences between the claimed subject matter and the prior art. Based on these factual inquiries, it

must then be determined, as a matter of law, whether or not the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the alleged invention was made. *Graham*, 383 U.S. at 17. Courts have held that there must be some suggestion, motivation or teaching of the desirability of making the combination claimed by the applicant (the "TSM test"). See *In re Beattie*, 974 F.2d 1309, 1311-12 (Fed. Cir. 1992). This suggestion or motivation may be derived from the prior art itself, including references or disclosures that are known to be of special interest or importance in the field, or from the nature of the problem to be solved. *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996).

Although the Supreme Court criticized the Federal Circuit's application of the TSM test, see *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, (2007) the Court also indicated that the TSM test is not inconsistent with the *Graham* analysis recited in the *Graham v. John Deere* decision. *Id.*; see *In re Translogic Technology, Inc.*, No. 2006-1192, 2007 U.S. App. LEXIS 23969, *21 (October 12, 2007). Further, the Court underscored that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR*, 127 S. Ct. at 1741. Under the precedent established in *KSR*, however, the presence or absence of a teaching, suggestion, or motivation to make the claimed invention is merely one factor that may be weighed during the obviousness determination. *Id.* Accordingly, the TSM test should be applied from the perspective of a person of ordinary skill in the art and not the patentee, but that person is creative and not an automaton, constrained by a rigid

framework. *Id.* at 1742. However, “the reference[s] must be viewed without the benefit of hindsight afforded to the disclosure.” *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994).

The prior art cited in an obviousness determination should create a reasonable expectation, but not an absolute prediction, of success in producing the claimed invention. *In re O’Farrell*, 853 F.2d. 894, 903-04 (Fed. Cir. 1988). Both the suggestion and the expectation of success must be in the prior art, not in applicant’s disclosure. *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 1207 (Fed. Cir. 1991) (citing *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988)). Further, the implicit and inherent teachings of a prior art reference may be considered under a Section 103 analysis. See *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995).

Secondary considerations such as commercial success, long-felt but unsolved needs, failure of others, and unexpected results, if present, can also be considered. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39 (Fed. Cir. 1983). Although these factors can be considered, they do not control the obviousness conclusion. *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988).

A. Independent Claims 1 and 75 and Dependent Claim(s)

Applicants’ invention, as recited in independent claim 12, relates to a confocal microscope lens arrangement, which comprises, *inter alia*:

a lens assembly housing ... ;

an exterior housing ... ; and

an immersion media filling the volume of area between the exterior housing and the lens assembly housing.

Independent claim 75 recites similar subject matter.

The Krauter Patent describes a variable focus camera assembly 20 disposed within the viewing head 16 of the borescope insertion tube 15. (See Krauter Patent, col. 3, lns. 33-35). The camera assembly 20 has a CCD-based video camera or imager 21 from which video leads or wires 22 extend proximally. These leads 22 carry the video signal of an object being viewed by the camera. The camera 21 is affixed within an imager sleeve 23. The latter is generally tubular with an annular land 24 that slidably contacts an inner surface of a tubular head sleeve 25. The head sleeve 25 is affixed within the outer sheath of the viewing head 16. (See *id.*, col., 3, lns. 35-43; and Fig. 2).

The Garini Patent relates to a light reflecting article which includes a sample carrying article layered with a light reflecting layer. The light reflecting layer serves for allowing an optical collection and detection system to collect both luminescent light emitted from a sample positioned on the light reflecting article in a direction of the optical collection and detection system, as well as luminescent light emitted from the sample in a direction away from the optical collection and detection system and reflected in the direction of the optical collection and detection system via the light reflecting layer, thereby increasing a sensitivity of luminescent light detection. (See Garini, Abstract).

In particular, as described and shown in the Garini Patent, the optical path of the rays of light emitted from object 18 which is mounted on a

mount 24 (e.g., a microscope slide). In particular, only rays that are emitted in the angles defined by a virtual cone 26 (darkened) of angle θ are actually collected by objective lens 10 and are therefore detected by the detector. The angle that spans cone 26 in space is defined by the numerical aperture (NA) of the microscope. (See *id.*, col. 6, Ins. 42-50; and Fig. 2). The brightness of an image formed by an objective at a fixed magnification increases with the diameter of the angular aperture (the angle θ of the cone of light collected by the objective lens 10). Light rays emanating from the object proceed through air (or an immersion medium such as oil) that lies between the cover glass and the objective front lens. (See *id.*, col. 6, Ins. 51-55).

Applicants respectfully assert that the alleged combination of the Krauter and Garini Patents fails to teach or suggest **an immersion media filling the volume of area between the exterior housing and the lens assembly housing**, as explicitly recited in independent claims 1 and 75 of the above-identified application. In the Office Action, the Examiner admits that the Krauter Patent does not have any disclosure concerning the *immersion media*, but contends that in view of the discussion of the immersion medium in the Garini Patent, it would have been obvious to those having ordinary skill in the art to combine the device of the Krauter Patent with the immersion medium of the Garini Patent for the purpose of correcting aberrations. (See Office Action, p. 3, Ins 5-9).

However, while the Garini Patent only discloses the use of an **immersion media**, this publication provides absolutely no teaching or suggestion of any placement thereof *in any housing whatsoever*, much less filling the volume

of the area between the exterior housing and the lens assembly housing, as recited in independent claims 1 and 75. Indeed, the Garini Patent neither shows nor describes any housing which encloses the lens arrangement. Clearly, it follows that there is no immersion medium in the lens housing in the arrangement of the Garini Patent.

Indeed, even though the Krauter Patent describes a housing enclosing a lens arrangement, there is certainly no reasons to include the immersion medium (as briefly described in the Garini Patent) in such arrangement. This is at least because the immersion medium of the Garini Patent is specifically situated *outside of any housing*. Thus, the Garini Patent clearly teaching away from providing the immersion medium in a housing. A reference must be considered for all that it teaches, not just what purportedly points toward the invention but also that which *teaches away* from the invention. See *Ashland Oil, Inc. v. Delta Resins & Refractories*, 776 F.2d. 281, 296 (Fed. Cir. 1985).

In contrast, independent claims 1 and 75 explicitly recite that **the immersion media fills the volume of area between the exterior housing and the lens assembly housing** – such recitation is not at all described in either of the Krauter Patent or the Garini Patent.

Thus, for at least these reasons, Applicants respectfully submit that the alleged combination of the Krauter and Garini Patents does not render the subject matter recited in independent claims 1 and 75 obvious. Claims 2-15 and 39 which depend from independent claim 1 is also not disclosed by the alleged combination of the Krauter and Garini Patents for at least the same reasons.

Thus, withdrawal of the rejection of these claims under 35 U.S.C. § 103(a) is respectfully requested.

B. Independent Claim 109

Applicants' invention, as recited in independent claim 14, relates to a confocal microscope lens arrangement, which comprises, *inter alia*:

a lens assembly including a plurality of lenses, wherein a **first lens of the plurality of lenses is an aplanat lens**, wherein a **second lens of the plurality of lenses is a plano-convex lens**, wherein the **first lens of the plurality of lenses is closer to a focal point of the lens assembly than the second lens of the plurality of lenses**, and wherein the **first lens of the plurality of lenses is the closest lens of the plurality of lenses to the focal point of the lens assembly**.

As an initial matter, Applicants respectfully assert that the Krauter Patent, taken alone or in combination with the Garini Patent, does not teach or suggest a lens assembly including a plurality of lenses, whereas **a first lens of the plurality of lenses is an aplanat lens, and a second lens of the plurality of lenses is a plano-convex lens**, as explicitly recited in independent claim 109 of the above-identified application. In the Office Action, the Examiner the Examiner has not pointed to any portion of either the Krauter Patent or the Garini Patent as disclosing, teaching or suggesting the use of *the aplanat lens or a plano-convex lens*.

Further, it is respectfully submitted that neither the Krauter Patent or the Garini Patent teach or suggest that **the first (aplanat) lens is closer to a focal point of the lens assembly than the second (plano-convex) lens**, much

less that the first (aplanat) lens is the closest lens of the plurality of lenses to the focal point of the lens assembly, as also recited in independent claim 109. Clearly, in addition to the complete lack of disclosure of the aplanat lens or the plano-convex lens in the Krauter Patent or the Garini Patent, it follows that these publication also do not teach or suggest that the aplanat lens is closer to the focal point of the lens arrangement than the plan-convex lens, much less that such aplanat lens is the closest lens to this focal point.

Accordingly, Applicants respectfully submit that the Krauter Patent, taken alone or in combination with the Garini Patent, does not render the subject matter recited in independent claim 109 obvious under 35 U.S.C. § 103(a).

Thus, withdrawal of the rejection of claim 109 under 35 U.S.C. § 103(a) is respectfully requested.

III. CONCLUSION

In light of the foregoing, Applicants respectfully submit that the pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited. The Examiner is invited to contact the undersigned to expedite the prosecution of this application if any issues remain outstanding.

Respectfully submitted,

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